

Fall 1999 special investigation - PCB contamination of fish in Shenandoah River watershed (site 1)

Date Collected	Stream name/location	Species name	Sample code	Length (cm)	Weight (g)	percent water	percent lipid	Total PCB (ppb)	Total chlordane (ppb)	Total DDT (ppb)	Total BDE (ppb)
10/7/99	South Fork Shenandoah near Riverton	Smallmouth Bass	SFRSM04	25.7	209	77.5	0.96	95.6	0.3	2.6	12.4
10/7/99	South Fork Shenandoah near Riverton	Smallmouth Bass	SFRSM08	30.2	400	77.2	1.25	246	0.8	5.9	13.3
10/7/99	South Fork Shenandoah near Riverton	Smallmouth Bass	SFRSM10	30.5	374	77.8	1.01	122	1.0	2.9	38.0
10/7/99	South Fork Shenandoah near Riverton	Smallmouth Bass	SFRSM09	35.4	520	78.2	0.64	135	0.4	3.1	8.3
10/7/99	South Fork Shenandoah near Riverton	Smallmouth Bass	SFRSM07	36.7	701	76.7	1.34	65.0	0.6	2.3	5.4
10/7/99	South Fork Shenandoah near Riverton	Smallmouth Bass	SFRSM05	37	690	76.5	1.12	167	0.4	4.2	5.7
10/7/99	South Fork Shenandoah near Riverton	Smallmouth Bass	SFRSM01	37.2	581	78.0	0.87	78.1	0.4	1.9	9.3
10/7/99	South Fork Shenandoah near Riverton	Smallmouth Bass	SFRSM03	37.7	680	77.2	0.78	58.2	0.4	1.6	6.4
10/7/99	South Fork Shenandoah near Riverton	Smallmouth Bass	SFRSM06	37.8	738	77.9	0.79	27.5	0.2	3.1	4.1
10/7/99	South Fork Shenandoah near Riverton	Smallmouth Bass	SFRSM02	39	737	77.7	1.06	354	0.7	5.2	13.1
average PCB concentration --->								135			
10/7/99	South Fork Shenandoah near Riverton	Redbreast Sunfish	SFRRB02	16.5	95	76.5	0.83	21.6			
10/7/99	South Fork Shenandoah near Riverton	Redbreast Sunfish	SFRRB04	17.4	115	75.3	1.93	51.4			2.4
10/7/99	South Fork Shenandoah near Riverton	Redbreast Sunfish	SFRRB01	19.1	137	77.5	0.79	68.0			6.4
10/7/99	South Fork Shenandoah near Riverton	Redbreast Sunfish	SFRRB05	19.1	152	77.6	1.08	39.2	0.3	0.7	
10/7/99	South Fork Shenandoah near Riverton	Redbreast Sunfish	SFRRB03	19.4	133	77.1	1.01	42.9	0.3	0.9	
average PCB concentration --->								44.6			
9/1/99	South Fork Shenandoah near Riverton	Channel Catfish	SFRCC02	35.2	323	76.7	3.31	80.9	0.2	1.5	14.0
9/1/99	South Fork Shenandoah near Riverton	Channel Catfish	SFRCC01	44.5	819	76.7	3.14	134	2.1	3.5	24.1
9/1/99	South Fork Shenandoah near Riverton	Channel Catfish	SFRCC05	47.5	1060	79.5	1.70	741	1.2	8.2	19.6
9/1/99	South Fork Shenandoah near Riverton	Channel Catfish	SFRCC10	50.7	1360	77.2	1.89	180	30.2	8.3	44.6
9/1/99	South Fork Shenandoah near Riverton	Channel Catfish	SFRCC03	52.2	1178	75.4	3.93	53.9	1.0	3.1	10.7
9/1/99	South Fork Shenandoah near Riverton	Channel Catfish	SFRCC08	56.9	1900	76.4	2.43	188	33.6	8.1	41.4
9/1/99	South Fork Shenandoah near Riverton	Channel Catfish	SFRCC06	57.2	2020	74.5	5.63	275	1.7	6.1	15.5
9/1/99	South Fork Shenandoah near Riverton	Channel Catfish	SFRCC07	58	2180	78.0	1.66	336	53.9	9.6	57.5
9/1/99	South Fork Shenandoah near Riverton	Channel Catfish	SFRCC04	61	2560	72.7	4.53	130	4.2	4.5	15.8
9/1/99	South Fork Shenandoah near Riverton	Channel Catfish	SFRCC09	66.1	2800	71.1	5.89	856	134	44.5	151
average PCB concentration --->								297			
10/7/99	South Fork Shenandoah near Riverton	Carp	SFRC02	63	3500	75.8	2.41	11175		19.1	147
10/7/99	South Fork Shenandoah near Riverton	Carp	SFRC04	63	3640	72.6	4.11	21324		68.3	470
10/7/99	South Fork Shenandoah near Riverton	Carp	SFRC05	66	4520	72.2	5.58	5962		28.5	103
10/7/99	South Fork Shenandoah near Riverton	Carp	SFRC01	70.5	5050	74.7	3.39	259	5.6	17.2	17.9
10/7/99	South Fork Shenandoah near Riverton	Carp	SFRC03	72	6220	73.9	3.77	44595		123	405
average PCB concentration --->								16663			

Fall 1999 special investigation - PCB contamination of fish in Shenandoah River watershed (site 2)

Date Collected	Stream name/location	Species name	Sample code	Length (cm)	Weight (g)	percent water	percent lipid	Total PCB (ppb)	Total chlordane (ppb)	Total DDT (ppb)	Total BDE (ppb)
10/8/99	Shenandoah River near Rt 50	Smallmouth Bass	SCLSM04	23.3	139	76.4	0.50	12.6			
10/8/99	Shenandoah River near Rt 50	Smallmouth Bass	SCLSM03	23.7	181	76.6	0.92	64.7			
10/8/99	Shenandoah River near Rt 50	Smallmouth Bass	SCLSM01	24.5	190	77.0	0.95	31.2			
10/8/99	Shenandoah River near Rt 50	Smallmouth Bass	SCLSM02	24.5	193	77.3	0.87	32.7			
10/8/99	Shenandoah River near Rt 50	Smallmouth Bass	SCLSM06	29	288	76.7	0.73	84.2		1.4	0.9
10/8/99	Shenandoah River near Rt 50	Smallmouth Bass	SCLSM09	30	310	76.3	0.73	35.6			0.9
10/8/99	Shenandoah River near Rt 50	Smallmouth Bass	SCLSM08	30.2	320	76.8	0.69	85.3		1.0	2.5
10/8/99	Shenandoah River near Rt 50	Smallmouth Bass	SCLSM05	30.5	366	76.4	1.00	64.6		0.9	
10/8/99	Shenandoah River near Rt 50	Smallmouth Bass	SCLSM07	32.2	399	76.6	0.73	34.8			1.0
10/8/99	Shenandoah River near Rt 50	Smallmouth Bass	SCLSM10	41.5	735	77.9	7.36	116		1.9	3.2
average PCB concentration --->								56.2			
10/8/99	Shenandoah River near Rt 50	Redbreast Sunfish	SCLRB05	16.5	87	77.2	0.89	5.10			
10/8/99	Shenandoah River near Rt 50	Redbreast Sunfish	SCLRB04	18.4	122	75.2	1.58	31.3			
10/8/99	Shenandoah River near Rt 50	Redbreast Sunfish	SCLRB01	20.2	136	77.1	0.79	67.9	0.6	2.1	0.9
10/8/99	Shenandoah River near Rt 50	Redbreast Sunfish	SCLRB03	20.5	149	77.6	0.59	12.2			
10/8/99	Shenandoah River near Rt 50	Redbreast Sunfish	SCLRB02	21	186	78.4	0.46	26.9			
average PCB concentration --->								28.7			
8/27/99	Shenandoah River near Rt 50	Channel Catfish	SCLCC07	36.2	509	77.1	5.71	116	0.9	4.2	2.7
8/27/99	Shenandoah River near Rt 50	Channel Catfish	SCLCC09	38.2	504	77.3	4.88	112	0.9	3.2	2.7
8/27/99	Shenandoah River near Rt 50	Channel Catfish	SCLCC04	41.6	703	77.0	4.79	55.1	0.4	2.1	1.0
8/27/99	Shenandoah River near Rt 50	Channel Catfish	SCLCC06	43.1	821	76.7	6.06	54.4	0.6	1.5	1.2
8/27/99	Shenandoah River near Rt 50	Channel Catfish	SCLCC08	46.1	1010	75.2	7.87	205	2.0	6.7	4.0
8/27/99	Shenandoah River near Rt 50	Channel Catfish	SCLCC03	48.5	1297	72.3	11.74	283	3.8	11.2	4.8
8/27/99	Shenandoah River near Rt 50	Channel Catfish	SCLCC01	49.7	1412	72.9		399	2.7	13.8	5.0
8/27/99	Shenandoah River near Rt 50	Channel Catfish	SCLCC10	51.6	1599	75.2	6.60	2913	7.7	32.7	46.2
8/27/99	Shenandoah River near Rt 50	Channel Catfish	SCLCC05	53.7	1828	74.1	9.44	869	3.5	15.9	15.4
8/27/99	Shenandoah River near Rt 50	Channel Catfish	SCLCC02	54.5	1866	72.5		610	1.8	24.6	10.7
average PCB concentration --->								562			
10/8/99	Shenandoah River near Rt 50	White Sucker	SCLWS05	37.5	602	78.1	1.94	44.3	0.4	1.5	1.4
10/8/99	Shenandoah River near Rt 50	White Sucker	SCLWS04	38.4	625	78.4	1.30	12.7		0.7	
10/8/99	Shenandoah River near Rt 50	White Sucker	SCLWS03	42.8	993	77.5	1.64	35.1		2.3	1.8
10/8/99	Shenandoah River near Rt 50	White Sucker	SCLWS01	43	950	77.3	2.49	290	2.5	6.3	15.2
10/8/99	Shenandoah River near Rt 50	White Sucker	SCLWS02	44	1003	77.7	2.39	15.8			0.7
average PCB concentration --->								80			

Fall 1999 special investigation - PCB contamination of fish in Shenandoah River watershed (site 3)

Date Collected	Stream name/location	Species name	Sample code	Length (cm)	Weight (g)	percent water	percent lipid	Total PCB (ppb)	Total chlordane (ppb)	Total DDT (ppb)	Total BDE (ppb)
10/6/99	Shenandoah River near Rt 7	Smallmouth Bass	SWVSM09	24.5	184	76.2	1.08	59.5		3.4	3.9
10/6/99	Shenandoah River near Rt 7	Smallmouth Bass	SWVSM06	26.7	223	76.8	1.36	123	0.3	8.2	11.4
10/6/99	Shenandoah River near Rt 7	Smallmouth Bass	SWVSM05	27.5	257	77.7	0.94	86.1	0.3	4.3	6.0
10/6/99	Shenandoah River near Rt 7	Smallmouth Bass	SWVSM02	28	265	77.4	1.04	80.8	0.5	11.3	4.6
10/6/99	Shenandoah River near Rt 7	Smallmouth Bass	SWVSM08	28.9	308	76.4	1.36	104	1.2	10.3	7.9
10/6/99	Shenandoah River near Rt 7	Smallmouth Bass	SWVSM07	29.8	336	76.3	1.10	101	0.4	5.6	9.8
10/6/99	Shenandoah River near Rt 7	Smallmouth Bass	SWVSM04	31.3	408	76.8	1.09	85.2	0.3	4.4	5.6
10/6/99	Shenandoah River near Rt 7	Smallmouth Bass	SWVSM03	32.4	460	76.8	1.16	55.1		3.1	3.1
10/6/99	Shenandoah River near Rt 7	Smallmouth Bass	SWVSM01	37.6	656	78.5	0.79	133	2.1	14.0	14.0
10/6/99	Shenandoah River near Rt 7	Smallmouth Bass	SWVSM10	49.4	1502	77.8	0.76	393	2.4	17.7	28.7
average PCB concentration --->								122			
10/6/99	Shenandoah River near Rt 7	Redbreast Sunfish	SWVRB03	18.9	111	77.3	0.67	16.7			
10/6/99	Shenandoah River near Rt 7	Redbreast Sunfish	SWVRB04	20.2	158	77.9	0.76	75.0		2.5	5.0
10/6/99	Shenandoah River near Rt 7	Redbreast Sunfish	SWVRB01	21	181	78.7	0.68	30.2		1.5	3.3
10/6/99	Shenandoah River near Rt 7	Redbreast Sunfish	SWVRB05	21.4	196	78.0	0.85	45.1	0.3	1.6	4.0
10/6/99	Shenandoah River near Rt 7	Redbreast Sunfish	SWVRB02	22.2	199	79.1	0.68	64.0		2.9	11.3
average PCB concentration --->								46.2			
8/17/99	Shenandoah River near Rt 7	Channel Catfish	SWVCC07	34	340	79.7	1.57	39.4	0.2	1.7	
8/17/99	Shenandoah River near Rt 7	Channel Catfish	SWVCC08	37.4	454	78.3	3.61	52.8	0.3	2.0	
8/17/99	Shenandoah River near Rt 7	Channel Catfish	SWVCC06	40	624	77.2	5.77	100	0.5	2.7	
8/17/99	Shenandoah River near Rt 7	Channel Catfish	SWVCC09	43	794	73.7	6.71	159	0.8	4.3	7.1
8/17/99	Shenandoah River near Rt 7	Channel Catfish	SWVCC10	44.5	1049	68.2	19.32	7381	8.9	75.0	161
8/17/99	Shenandoah River near Rt 7	Channel Catfish	SWVCC02	46.5	1163	74.2	8.29	1662		35.7	58.1
8/17/99	Shenandoah River near Rt 7	Channel Catfish	SWVCC01	51	1446	78.4	3.85	6841		59.0	109
8/18/99	Shenandoah River near Rt 7	Channel Catfish	SWVCC04	54	1450	71.0	13.84	1616	3.4	22.7	40.7
8/17/99	Shenandoah River near Rt 7	Channel Catfish	SWVCC03	58	2156	75.5	15.03	1290	8.3	30.3	57.8
8/18/99	Shenandoah River near Rt 7	Channel Catfish	SWVCC05	65.8	2892	73.0	11.64	1591	6.2	33.2	37.3
average PCB concentration --->								2073			
10/8/99	Shenandoah River near Rt 7	White Sucker	SWVWS03	38.2	642	78.6	1.26	20.8	0.1	1.4	3.0
10/8/99	Shenandoah River near Rt 7	White Sucker	SWVWS01	39	689	78.2	2.15	32.9	0.3	2.7	3.1
10/8/99	Shenandoah River near Rt 7	White Sucker	SWVWS04	39.6	659	79.1	0.84	23.5	0.1	1.4	2.7
10/8/99	Shenandoah River near Rt 7	White Sucker	SWVWS02	40.5	790	78.3	1.12	17.6		2.9	1.9
10/8/99	Shenandoah River near Rt 7	White Sucker	SWVWS05	41.4	782	78.6	1.42	28.4	0.2	1.6	3.2
average PCB concentration --->								24.6			

The Virginia Department of Health has reviewed this data and noted that some carp and channel catfish contained PCBs above the 600 part-per-billion level of concern. Because these fish were from an area of the river currently subject to a fishing advisory, the health department has determined that no further action is needed at this time.